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CASE REPORT

Solitary fibrous tumor, a rare tumor of the pleura: A case report

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Summary
Introduction: Solitary fibrous tumors of the pleura are rare. Only 800 cases have been reported in literature.
Case presentation: A 73-year old male, suffering from coughing, presented with a tumor on the chest X-ray.
Conclusion: Primary benign pleural tumors are much less common than metastatic cancers or diffuse malignant mesothelioma. Solitary fibrous tumor is the most common benign neoplasm of the pleura. Mostly, it presents as a solitary tumor and has a good prognosis after resection.

A 73-year old male patient was referred to the pulmonology department of our hospital because of a lesion on his chest X-ray. The X-ray was performed on request of his general practitioner for persistent coughing. A lobbed structure was seen in the left upper lobe. Retrospectively, this structure could have been seen on the X-ray made eight years before, however, at that time it was very small.

Initially the persistent productive coughing of green sputum was temporarily relieved for a short time with the use of antibiotics, prescribed by his general practitioner. Anamnestic, there were no B-symptoms, or any other complaints.

His medical history revealed ventricular aritmia, pneumonia twice, an inguinal hernia and an appendectomy. Medication only consisted of an anti-arythmic.

On medical examination, no abnormalities were found.

Except for a little increase of his creatinine, his blood-results showed no abnormalities.

On a CT-scan, the above-mentioned structure was seen, as a smooth mass of 5.5 cm, in the left part of the anterior superior mediastinum. Apart from this, no other abnormalities were found (Fig. 1).

On bronchoscopy, the mucosa appeared normal and no impressions were noticed.

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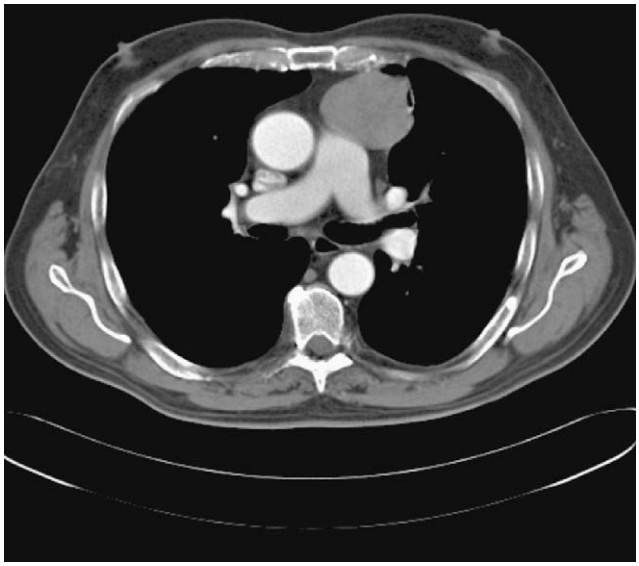

Figure 1 CT shows a large mass in the anterior mediastinum.

His lung function was relatively uneventfull, except for a decreased total lung capacity (5.5 l = 76% of predicted), relatively uneventful.

Based on the results, the differential diagnosis for this mediastinal tumor consisted of teratoma, thymoma or a lymphoma and the surgeon was asked for a sternotomy. At sternotomy, a tumor of 7 × 8 cm was found in the left anterior mediastinum, which was attached to the pleura and the apex of the left lung. The tumor was surgically dissected from these structures and was removed completely. The postoperative course was uneventfull.

On histological examination the tumor consisted of bundles of spindle cells, positive on vimentin. Stains with epithelial markers, S-100 or markers of the mesothelium were negative. This so-called solitary fibrous tumor of the pleura is benign. At this moment, 4 years after resection, this patient has no recurrence of disease (Fig. 2).

Solitary fibrous tumors of the pleura are rare and slow-growing. Only 800 cases have been reported in literature. Various terms have been used. Formerly it was called a ''localized mesothelioma''.[1]

Primary benign pleural tumors are much less common than metastatic cancers or diffuse malignant mesothelioma.[2] Solitary fibrous tumor is the most common benign neoplasm of the pleura.[2] The tumor is originated from the mesenchymal tissue underlying the mesothelial layer of the pleura.[3] In most of the cases, it presents as a solitary tumor, rarely multiple tumors are found in one patient.[2] It usually is a demarcated pleural-based mass, 50% is pedunculated.[2] As patients are usually asymptomatic at the time of diagnosis, the tumor usually is an incidental finding. Occasionally, symptoms as dyspnoea, coughing, chest pain, or clubbing are seen. When patients present with a hypoglycaemia, because of tumor production of insulin like growth factor, it is called the Doege–Potter syndrome.[3]

Solitary fibrous tumor of the pleura affects men and women equally. Its clinical behaviour is not precisely known, but mostly it has a benign course. Only 12% has local or distant recurrence after treatment.[4] Pathological analysis shows a spindle cell stroma associated with branching

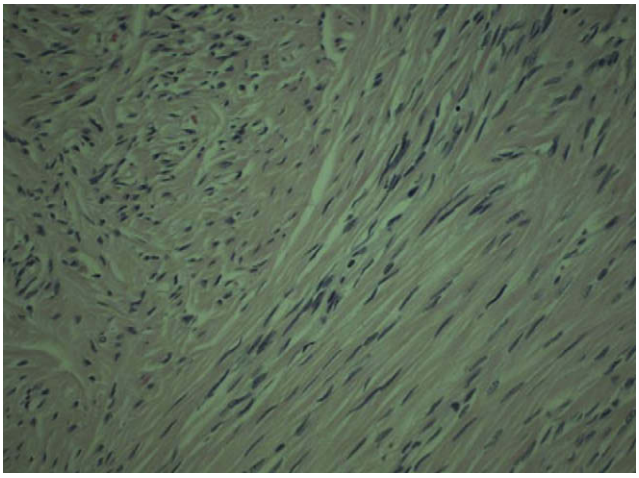

Figure 2 HE: 200×. Tumor is composed of spindle cells without atypia, arranged in fascicles.

tubular structures lined by cuboidal cells. The spindle cells show vimentin reactivity, whereas stains for keratin are negative, but no single marker reliably differentiates.[5]

Tumor size, increased mitoses, hemorrhage, necrosis may be associated with a malignant clinical behaviour.[4] An origin from the parietal pleura is associated with tumor recurrence and a low expression of progesterone receptors was also associated with a worse outcome.[1]

Treatment exists of radical surgical resection. VATS procedure is commonly used for smaller lesions, but thoracotomy or sternotomy usually is required in treatment of larger tumors. Pedunculated tumors can be safely treated by wedge resection.[4] Prognosis after surgical treatment is associated with favorable results with 10-year survival rates varying from 75%[6] to 94%.[7]

Conflict of interest statement

None of the authors have a conflict of interest to declare in relation to this work.

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